IN THE CLAIMS:

Claim 1 (cancelled)

Claim 2 (currently amended) A tape-like material according to claim 43, wherein the ~~containing~~ carbon nanotubes ~~having~~ have a thickness in the range of 10 to 500 μm, a width in the range of 1 to 10 mm, and an arbitrary length, and wherein the tape-like material principally ~~having~~ has flocculated carbon nanotubes.

Claims 3 to 6 (cancelled)

Claim 7. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according claim 43 ~~3~~, wherein the gas ~~supplied~~ jetted from the anode to the cathode is argon or a mixture of argon gas and hydrogen gas.

Claim 8. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according to claim 43 ~~1~~, wherein the anode and the cathode are ~~relatively~~ moved relative to one another so that an ~~the~~ arc generation point on the surface of the cathode has a substantially constant temperature history, except for positions of arc generation start and termination.

Claim 9. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according to claim 43 ~~1~~, wherein the tape-like material is produced by moving the cathode spot so as not to be formed repeatedly in the same region on the surface of the cathode.

Claim 10. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according to claim 43 ~~1~~, wherein the tape-like material is produced by performing arc discharge while the entire cathode, the cathode spot of the arc, or the front portion of an arc in an arc track on the cathode is heated.

Claim 11. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according to claim 43 ~~1~~, wherein the tape-like material is produced by a synthesis using a carbon material having an electrical resistivity of 4,000 $\mu\Omega$·cm or more, or a thermal conductivity of 40 W/m·K or less as the cathode.

Claim 12. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according to claim 43 ~~1~~, wherein the tape-like material is produced by a synthesis using a carbon material having an arithmetic average surface roughness (Ra) of 3.2 μm or less as the cathode.

Claim 13. (currently amended) The tape-like material ~~containing carbon nanotubes~~ according to claim 43 ~~1~~, wherein the tape-like material is produced by a synthesis in which a gas is jetted onto a product produced on the locus of the cathode spot of the arc in a cooling step immediately after arc discharge.

Claim 14. (currently amended) A field emission electrode including the tape-like material ~~containing carbon nanotubes~~ as set forth in claim 43 ~~1~~, the tape-like material being pinched between substrates or bonded to a substrate.

Claim 15. (currently amended) A field emission electrode including the tape-like material ~~containing carbon nanotubes~~ as set forth in claim 43 ~~1~~, wherein the

tape-like material is torn by pinching between substrates or between a substrate and a material more deformable than the substrate to apply a pressure, and then ~~separating~~ the substrates or the substrate and deformable material are separated, whereby the field emission electrode has the torn tape-like material adhering to the substrate.

Claim 16. (currently amended) The field emission electrode according to Claim 15, wherein the tape-like material ~~containing carbon nanotubes~~ is pinched such that the surface thereof which was opposed to the anode during synthesis is in contact with the substrate.

Claim 17. (currently amended) A process for producing a field emission electrode, comprising the step of pinching the tape-like material ~~containing carbon nanotubes~~ as set forth in claim 43 ~~1~~ between substrates, or bonding the tape-like material to a substrate with a conductive adhesive.

Claim 18. (currently amended) A process for producing a field emission electrode, the process comprising the step of: pinching the tape-like material ~~containing carbon nanotubes~~ as set forth in claim 43 ~~1~~ between substrates or between a substrate and a material more deformable than the substrate to apply a pressure, and then separating the substrates or the substrate and deformable material, whereby the field emission electrode has the torn tape-like material adhering to the substrate.

Claim 19. (currently amended) The process for producing a field emission electrode according to Claim 18, wherein the tape-like material ~~containing carbon nanotubes~~ is pinched such that the surface thereof which was opposed to an anode during synthesis is in contact with the substrate.

Claims 20 to 24 (cancelled)

Claim 25. (currently amended) The process for producing carbon nanotubes according to claim 47 ~~21~~, wherein the gas flow rate of the inert gas or inert gas-containing mixed gas jetted onto the cathode from the inside of the hollow electrode is in the range of 10 to 400 mL/min per square millimeter of cross

section of the bore of the hollow electrode.

Claim 26. (currently amended) The process for producing carbon nanotubes according to claim 46 ~~20~~, wherein argon or a mixture of argon gas and hydrogen gas is used as the inert gas or inert gas-containing mixed gas.

Claim 27. (currently amended) The process for producing carbon nanotubes according to claim 46 ~~20~~, wherein the cathode is preheated to a temperature in the range of 500 to 2,000°C before arc discharge.

Claim 28. (currently amended) The process for producing carbon nanotubes according to claim 46 ~~20~~, wherein the cathode electrode comprises a carbon material having an electrical resistivity of 4,000 $\mu\Omega$·cm or more, or a thermal conductivity of 40 W/m· K or less.

Claim 29. (original) A process for producing carbon nanotubes by arc discharge, wherein a path of the arc discharge is formed along the stream of an inert gas or inert gas-containing mixed gas supplied from an anode to a cathode comprising a carbon material, and simultaneously, the anode and the cathode are relatively moved so as to move a cathode spot of an arc on the cathode.

Claim 30. (original) A process for producing carbon nanotubes by arc discharge, wherein an arc is generated while an inert gas or an inert gas-containing mixed gas is jetted onto a cathode comprising a carbon material from the inside of a

hollow electrode used as an anode, and simultaneously, the anode and the cathode are relatively moved so as to move a cathode spot of the arc on the cathode.

Claim 31. (original) A process for producing carbon nanotubes by arc discharge, wherein an arc is generated while an inert gas or an inert gas-containing mixed gas is jetted together with a metal powder or metal compound powder serving as a catalyst onto a cathode comprising a carbon material from the inside of a hollow electrode used as an anode, and simultaneously, the anode and the cathode are relatively moved so as to move a cathode spot of the arc on the cathode.

Claim 32. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the cathode spot of the arc is relatively moved on the surface of the cathode material at a speed in the range of 10 to 1,000 mm/min, by relatively moving the anode and the cathode.

Claim 33. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the arc discharge is performed in a normal atmosphere.

Claim 34. (previously presented) The process for producing carbon nanotubes according to claim 30, wherein the gas flow rate of the inert gas or inert gas-containing mixed gas jetted onto the cathode from the inside of the hollow

electrode is in the range of 10 to 400 mL/min per square millimeter of cross section of the bore of the hollow electrode.

Claim 35. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein argon or a mixture of argon gas and hydrogen gas is used as the inert gas or inert gas-containing mixed gas.

Claim 36. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the anode and the cathode are relatively moved so that the arc generation point on the surface of the cathode has a substantially constant temperature history, except for positions of arc generation start and termination.

Claim 37. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the cathode spot is moved so as not to be formed repeatedly in the same region on the surface of the cathode.

Claim 38. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein arc discharge is performed while the entire cathode, the cathode spot of the arc, or the front portion of an arc in an arc track on the cathode is heated.

Claim 39. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the cathode electrode comprises a carbon material having an electrical resistivity of 4,000 $\mu\Omega$·cm or more, or a thermal

conductivity of 40 W/m· K or less.

Claim 40. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein a carbon material having an arithmetic average surface roughness (Ra) of 3.2 μm or less is used as the cathode.

Claim 41. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the carbon nanotubes are produced in a synthesis in which a gas is jetted onto a product produced on the locus of the cathode spot of the arc in a cooling step immediately after arc discharge.

Claim 42. (previously presented) The process for producing carbon nanotubes according to claim 29, wherein the carbon nanotubes constitute an aggregate in a tape form.

Claim 43 (new) A tape-like material of carbon nanotubes produced on a track of a cathode spot of an arc on a cathode material by restricting a path of the arc by generating the arc while an inert gas having an ionization efficiency higher than the ionization efficiency of an atmosphere gas or a mixed gas containing the inert gas is jetted from an anode to a cathode comprising a carbon material, and simultaneously moving the anode and the cathode relative to one another so as to move the cathode spot of the arc on the cathode material, the carbon nanotubes being spontaneously peeled thereafter and collected, so as to form the tape-like material with unrefined carbon nanotubes formed of carbon

nanotube fibers entangled with each other into a tape-like shape.

Claim 44 (new) A tape-like material of carbon nanotubes produced on a track of a cathode spot of an arc on a cathode material by restricting a path of the arc by generating the arc by generating the arc while an inert gas having an ionization efficiency higher than the ionization efficiency of an atmosphere gas or a mixed gas containing the inert gas is jetted from an inside of a hollow anode to a cathode comprising a carbon material, and simultaneously moving the anode and the cathode relative to one another so as to move the cathode spot of the arc on the cathode material, the carbon nanotubes being spontaneously peeled thereafter and collected so as to form the tape-like material with unrefined carbon nanotubes formed of carbon nanotube fibers entangled with each other into a tape-like shape.

Claim 45 (new) A tape-like material of carbon nanotubes produced on a track of a cathode spot of an arc on a cathode material by restricting a path of the arc by generating an arc while an inert gas having an ionization efficiency higher than the ionization efficiency of an atmosphere gas or mixed gas containing the inert gas is jetted together with a metal powder or metal compound powder serving as a catalyst from an inside of a hollow anode to a cathode comprising a carbon material, and simultaneously moving the anode and the cathode relative to one another so as to move the cathode spot of the arc on the cathode material, the carbon nanotubes being spontaneously peeled thereafter and collected so as to form the tape-like material with unrefined carbon nanotubes formed of carbon

nanotube fibers entangled with each other into a tape-like shape.

Claim 46 (new). A process for producing carbon nanotubes on a carbon material of a cathode, the process comprising producing the carbon nanotubes on the carbon material by arc discharge, wherein a path of arc in the arc discharge is restricted by generating an arc while jetting, from an anode to the cathode, an inert gas having an ionization efficiency higher than the ionization efficiency of an atmospheric gas or a mixed gas containing the inert gas.

Claim 47 (new). A process for producing carbon nanotubes on a carbon material of a cathode, the process comprising producing the carbon nanotubes on the carbon material by arc discharge, wherein a path of arc in the arc discharge is restricted by generating an arc while jetting, from an inside of a hollow anode to the cathode, an inert gas having an ionization efficiency higher than the ionization efficiency of an atmospheric gas or a mixed gas containing the inert gas.

Claim 48 (new). A process for producing carbon nanotubes on a carbon material of a cathode, the process comprising producing the carbon nanotubes on the carbon material by arc discharge, wherein a path of arc in the arc discharge is restricted by generating an arc while jetting, from an anode to the cathode, an inert gas having an ionization efficiency higher than the ionization efficiency of an atmospheric gas or a mixed gas containing the inert gas, wherein a metal powder or metal compound powder serving as a catalyst is jetted together with

the inert gas or the mixed gas from the anode to the cathode.

Claim 49 (new). A process for producing carbon nanotubes on a carbon material of a cathode, the process comprising producing the carbon nanotubes on the carbon material by arc discharge, wherein a path of arc in the arc discharge is restricted by generating an arc while jetting, from an inside of a hollow anode to the cathode, an inert gas having an ionization efficiency higher than the ionization efficiency of an atmospheric gas or a mixed gas containing the inert gas, wherein a metal powder or metal compound powder serving as a catalyst is jetted together with the inert gas or inert gas-containing mixed gas from the inside of the hollow anode to the cathode.

Claim 50 (new) A process for producing a tape-like material comprising the steps of:

(1) forming carbon nanotubes on a carbon material of a cathode by arc discharge, wherein the carbon nanotubes are produced on a track of a cathode spot of an arc on the carbon material by (a) restricting a path of the arc by generating the arc while jetting, from an inside of a hollow anode to the cathode, either (i) an inert gas having an ionization efficiency higher than the ionization efficiency of oxygen or nitrogen or (ii) a mixed gas containing the inert gas, said inert gas or mixed gas optionally being jetted from the inside of the hollow anode to the cathode together with a metal powder or metal compound powder serving as a catalyst; and (b) simultaneously moving the anode and the cathode relative to one another to move the cathode spot of the arc on the carbon material such

that (i) the carbon nanotubes are formed surrounded by impurities having a lower combustion temperature than the carbon nanotubes whereby the impurities may be preferentially oxidized and burned when subjected to an oxidizing atmosphere to obtain purified carbon nanotubes, and (ii) the purified carbon nanotubes spontaneously peel away in the form of a tape when the cathode cools;

(c) subjecting the carbon nanotubes surrounded by impurities formed in step (1) to an oxidizing atmosphere so as preferentially to oxidize and burn the impurities;

(d) allowing the cathode to cool to cause separation of the purified carbon nanotubes in the form of a tape; and

(e) collecting the purified carbon nanotubes in the form of a tape to obtain the tape-like material, wherein the tape-like material comprises carbon nanotube fibers entangled with each other in a tape-like shape.

Claim 51 (new) The tape-like material produced by the process of claim 50.